

WHAT IS CLAIMED IS:

1. A method for investigating a biological effect of a siRNA directed against at least one gene present in a cell comprising:

providing a support comprising on pre-determined locations thereon at least one siRNA species;

plating cells onto said support under conditions allowing proliferation of the cells and entry of the siRNA into the cells;

detecting the biological effect of the siRNA on the cells.

2. The method of claim 1, wherein the siRNA present at the predetermined locations on the support is obtained by enzymatic digestion of double stranded nucleotides or by chemical synthesis.

3. The method of claim 2, wherein the enzymatic digestion of the double stranded nucleotides is performed at the predetermined locations of the surface of the support.

4. The method of claim 2, wherein the double stranded nucleotides are RNA copies corresponding to a partial or complete coding sequence or the essentially full-length mRNA of the corresponding genes.

5. The method of claim 2, wherein the double stranded RNA nucleotides are short hairpin RNA (shRNA).

6. The method of claim 2, wherein the double stranded RNA nucleotides are microRNA (miRNA).

7. The method of claim 2, wherein the enzymatic digestion is performed on the double stranded RNA nucleotides by DICER or other RNase III-type enzymes.

8. The method of claim 1, wherein the support is selected from the group consisting of a culture plate, multi-well plate, glasses, slides, discs, or beads.

9. The method of Claim 1, further comprising exposing the cells to an agent of interest.

10. The method of claim 1, wherein the predetermined locations for the siRNA are isolated from each other by a physical barrier.

11. The method of claim 10, wherein said barrier is a tube or a chemical barrier.

12. The method of claim 1, wherein said detecting of the biological effect of the siRNA on the cells is performed by determining biological parameters linked to cell division, cell proliferation, apoptosis and/or cell differentiation.

13. The method of claim 1, wherein specific proteins of the cells are analyzed by means of Western analysis.

14. The method of claim 1, wherein enzymatic activities on the specific location are assayed.

15. The method of claim 1, wherein one or more specific mRNAs of the cells are analyzed with a northern analysis.

16. The method of claim 1, wherein said determining of the biological impact of the siRNA comprises performing an RT-PCR for quantifying a transcript of a particular gene of the cells being affected by the presence of the siRNA present in the location.

17. The method of claim 1, wherein the biological effect is quantified using a real-time detection method.

18. A micro-array, comprising a support, said support comprising a siRNA on predetermined locations thereof.

19. A kit for screening of multiple siRNAs for their impact on cells or daughter cells, said kit comprising a micro-array according to claim 15, wherein said cells have been transfected by siRNA.